

Ethical Issues for Human Stem Cell Research

These guidelines call attention to research methods used in human stem cell research that are considered ethically sensitive and require special consideration and discussion by the UCI hSCRO. Unless specifically prohibited by UCI campus policy, NAS guidelines and CIRM regulations, this guidance should not be interpreted as a judgment of the ethical admissibility or inadmissibility of specific activities reviewed by the UCI hSCRO.

1. Derivation of new hESC lines using human oocytes and somatic cell nuclear transfer (SCNT), parthogenesis or androgenesis

Ethical Concerns:

- Risk factors in obtaining human gametes, especially oocytes, for the sole purpose of research, e.g., ovarian hyperstimulation syndrome, bleeding, infection, anesthesia and pregnancy.
- Potential need for a large number of donors to achieve research aims.
- Use of oocytes in excess of clinical need from infertility clinics.
- Use of cloning in creating human blastocysts.
- Creation and the destruction of human blastocysts for research.

2. Derivation of new hESC lines using SCNT, parthogenesis or androgenesis and nonhuman oocytes

Ethical Concerns:

- Use of cloning in creating human blastocysts.
- Creation and destruction of human or human blastocysts for research.
- Combination of human and nonhuman materials in creating human blastocysts.

3. Integration of human and nonhuman cells and tissues

Ethical Concerns:

Injection of hESCs into animals, particularly nonhuman primates, is of special ethical concern when it is possible that:

- Species lines may be unclear,
- Cognitive capacities of animals may be enhanced, or
- Germ lines are altered.

Prohibited Research Activities

1. In vitro culture of any intact human embryo, regardless of derivation method, after the appearance of the primitive streak or after 12 days whichever is earlier. The 12-day prohibition does not count any time during which the blastocysts and/or cells have been stored frozen.
2. Introduction of hESCs into nonhuman primate blastocysts.
3. Introduction of any type of stem cells into human blastocysts.
4. Introduction of hESCs into a human uterus or equivalent, or any experiments attempting human reproductive cloning.
5. Breeding of an animal into which hESCs have been introduced at any stage of development.